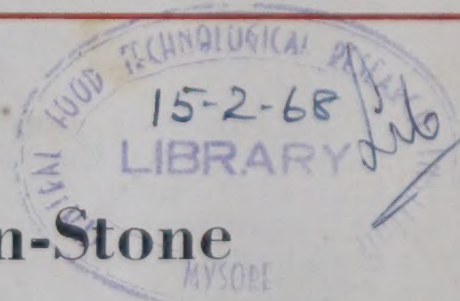


UNIVERSITY NEWS

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ਡਾ: ਜ਼ਾਕਿਰ ਹੁਸੈਨ
ਨੇ ਆਪਣੇ ਕਹ-ਕਮਲਾਂ
27 ਦਸੰਬਰ, 1967, ਨੂੰ

The President, Dr. Zakir Husain, laying the foundation—stone of Shri Guru Gobind Singh Bhavan on the Punjabi University campus. Also seen in picture are Mr. Kripal Singh Narang, Vice-Chancellor of Punjabi University, and Maharaja of Patiala. (Report overleaf)

Systematic Study of Religions at Gobind Singh Bhavan

PUNJABI University will soon have a Guru Gobind Singh Bhavan at its campus. The foundation-stone of this bhavan was laid by President Zakir Husain at the university campus recently.

The university proposes to establish the Guru Gobind Singh Chair of Comparative Religions. This department would be located in this bhavan.

The Rs. 6 lakh bhavan will be a five-petalled structure in the midst of a 1,000 feet long and 200 feet wide pool and will be connected with "land" by a floating bridge.

The bhavan will have five arches, which will have five units of library, one for each of five religions—Sikhism, Hinduism, Christianity, Islam and Buddhism.

Punjabi University will be the first in the country to have a chair of comparative religions.

Symbolic Meaning

It will be a pure-white concrete building, austere and chaste in line, with much symbolic meaning as well as architectural distinction. It will be mounted over by an ever-blazing flame signifying purity, life and learning.

Its object will be a comparative study of religion—a discipline not properly developed in the country yet, but one which should have special importance for a people who produced the profoundest and subtlest religious thought and who scrupulously cultivated the principles of understanding and tolerance. To investigate the manifestations of religious phenomenon, their essential nature and task and their basic unity, and to identify the contribution of religion to human progress and its relation to contemporary situation and knowledge would anywhere be a legitimate intellectual pursuit.

But it would perhaps be more so in India.

The department will engage in the study of five major religions—Hinduism, Buddhism, Christianity, Islam and Sikhism. The main purpose will be to relate this enquiry to other human interests, such as social, aesthetic and intellectual, and to bring forth an integrated view of religion and its significance in the history of mankind. It will be a non-instructional department and no teaching courses will be instituted. In the midst of institutionalized curriculum, this new programme will represent freedom of study and exploration and sponsor publication of university quality. Without splitting itself into syllabi and courses of reading and examination, it should absorb a considerable segment of the intellectual life of the university. As it is, the university has developed several research programmes through its Department of Shri Guru Granth Sahib studies and through other departments such as Punjabi, Sanskrit, Persian and folklore. These will energise studies in the new department and, in turn, receive from them fresh impetus and vigour.

Meanwhile, the university has decided to introduce correspondence courses for preliminary examination in Punjabi, pre-university and three-year degree course in the subjects of English, Hindi, Punjabi, history, civics/political science, economics, commerce, mathematics and education. Duration of pre-university course will be one year while that of B.A. four years.

The university has decided to allow journalists to appear in the various examinations as private candidates in arts, social sciences and languages faculties. Pass percentage for pre-medical, pre-engineering, T.D.C., B. Com. and B.A. (old regulations) has been raised to 35.

PERSONAL

Dr. Y. Sachdeva, principal and professor of surgery, Government Medical College, Amritsar, has been elected president of the Association of Surgeons of India for 1968.

Professor Howard A. Bern, University of California, U.S.A. has joined zoology department of Kerala University as a visiting professor.

Dr. M. V. Pylee, Director of the School of Management, Kerala University, has been elected to the governing body of the Kerala State Productivity Council.

Dr. (Miss) A. George, professor of statistics of Kerala University, has been nominated as a member of the Statistics Review Committee of the University Grants Commission.

Mr Aditya Prakash, Senior Architect, Punjab Agricultural University, has joined the Government College of Architecture, Chandigarh, as principal.

Dr. R. S. Sharma, head of department of history, Patna University, has been elected general secretary of the Indian History Congress.

Dr. S. Balakrishna has been awarded the Indian Geo-physical Union Krishnan medal for 1967 for his outstanding research in physical properties of rocks.

Professor J. K. Mehta, head of economics department, Allahabad University, has been appointed president of the Indian Economics Association for 1968.

Professor S. K. Joshi, has been awarded Wattumull prize for the best work in research in 1965.

Dr. R. C. Mehrotra, Professor of Chemistry, Rajasthan University, has been awarded the Shanti Swarup Bhatnagar Memorial Award for 1965. Prof. Mehrotra shared this award in chemical science with Prof. Sadhan Basu.

On Convocation Costumes

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CONFLICTING views have been expressed recently about the costumes worn at convocations and other academic functions of universities in India. In fact, some universities have already adopted certain new patterns which they deem appropriate for such occasions.

Of late the demand for a change in the academic dress-gown and hood has been growing apace. It has gathered considerable momentum since the recent decision to switch over to the regional languages as the medium of instruction in our universities was taken. Perhaps it is with a view to "Indianising" the system of education and other ceremonies attached with it that universities are seriously considering the proposal. The Education Commission in its report also suggested that "a reform in its (convocations') ritual and procedure appears to be necessary.... The hood and gowns are inconvenient and even incongruous in the Indian setting and climate. Many countries like the Soviet Union and Japan do not require any particular academic dress to be worn by new graduates receiving degree at a convocation."

If we stray a little into the history and tradition of holding convocations and other allied academic ceremonies, we will find these go back hundred of years. In ancient times, the gurus used to hold special functions to confer upon their pupils special robes as a symbol of having been trained and fully equipped to enter life. The pupils were also delivered some valuable words of wisdom before parting. They were expected to adhere to these cardinal principles of life. Later, it took the shape of convocation addresses which were delivered by eminent personages or men of

learning. In India, convocations first came in vogue when Calcutta University held its first convocation on December 12, 1857. Since then this pattern has been followed uniformly.

Universities in the West too have been broadly following a similar pattern. But the U.S. Bureau of Academic Costumes and the U.S. Committee on Academic Costumes and Ceremonies appointed by the American Council of Education have been modifying the dress to suit the needs.

Most of the Indian universities held their annual convocations to confer degrees upon thousands of students *en masse* without providing any opportunity to students to have a feeling of warmth or pride in their achievement. Nor are the degrees presented to them by the chancellor or the vice-chancellor. With the result that the real sense of participation by students in the entire process gets blunted. In a sense, however, it is the duty of the university to make the academic functions interesting and attractive so that the recipients of degrees have a special feeling for this day and its memory stays with them till late in life. Perhaps this is possible when the students have a sense of belonging and play an active role in it. Mr Sri Prakasa, former Governor of Maharashtra, once suggested that a brilliant former student who had passed out from a university and had entered life could be invited to address the new graduates. Also the students could themselves be asked to arrange the function. Similarly, several other innovations can be introduced. As far as the academic apparel is concerned, it would be desirable to obtain consensus of all the universities and then evolve a uniform pattern for the entire country.—M.R.D.

Maharashtra VCs' Rs. 50-Lakh Plan for Text-books

THE joint board of vice-chancellors of the universities of Maharashtra, has formulated a Rs. 50-lakh five-year plan for preparing and publishing arts and science text-books for undergraduates in Marathi.

The plan also envisages the preparation of text-books on a few subjects for post-graduates, and a scheme for publishing research journals in Marathi.

This is a step towards the universities' adopting Marathi as the medium in the next five years for the graduation courses in arts and science.

The joint board has had appointed a committee, with Dr V. B. Kolte, Vice-Chancellor of Nagpur University, as its chairman, to prepare the plan. The plan will be financed entirely by the Union Government.

The Union Ministry of Education has decided to give each State Government Rs. 1 crore for the preparation and publication of university text-books in the respective regional languages.

According to the plan, text-books are to be prepared for all subjects in humanities, social sciences and natural sciences.

A committee will be formed for each subject, comprising the chairman of the boards of studies of that subject of the six universities in the State. That committee will prepare an outline of the text-books that would cover the curricula of all the universities in the State.

The joint board will publish the text-books as a commercial proposition.

Satellite Communication Centre for Ahmedabad

Dr. Vikram A. Sarabhai, Chairman of the Atomic Energy Commission, inaugurated a college of satellite communications technology at Ahmedabad recently.

The college, first of its kind, attached to the experimental satellite communication earth station, about 12 kilometres from Ahmedabad, has students from Kenya, Sudan, Afghanistan, Turkey, Syria and Indonesia.

Dr Sarabhai said on the inauguration that the project would be useful for scientific collaboration among several nations.

The college was planned by the late Dr. N. J. Bhabha. It has been assisted by the United Nations Special Fund.

The college will run two courses—one for post-graduate engineers and second for senior technicians. The courses are at present open only for candidates working in the field of communications and for other course the minimum qualification is a diploma or control engineering from a recognized university and at least four years experience in the operation and maintenance of microwave, radar or communication stations.

THE Punjab Government has invited university and college teachers to give suggestions for raising resources to finance the state's annual plan. An award of Rs. 1,000 would be given to the accepted proposal. This may be sent to director of public relations, Punjab Government, Chandigarh, before February 28.

The Lady Tata Memorial Trust has offered six scholarships of Rs. 300 per month for one year in India. The scholarships would be awarded to graduates in medicine or science. Applications may be sent to the trust at Bombay before March 15.

The Parkison Commonwealth Bursary would be awarded to

GUJARAT TECHNOLOGY INSTITUTE FROM JUNE

GUJARAT will have an institute of technology from June this year. The institute, to be named after Mr. Dharmasinh Desai, would be the first of its kind in Gujarat and second in India.

The institute will be set up by the Dharmasinh Desai Trust and would be affiliated to Gujarat University which will provide degree courses in chemical engineering, petro-chemicals and refinery technology.

It is hoped that the new institute will help in exploring oil fields and mineral resources in Gujarat. Besides, it would also help train personnel to man specialised industries in various fields like petro-chemicals and heavy chemical industries. Diploma courses in chemical engineering and chemical plant operation would be started from June 1969.

The scheme will cost Rs. 30 lakhs. The trust will supply equipment and laboratory apparatus. However, it will take three to four years to fully develop the institute when it will ultimately accommodate 300 students per year—60 each for five courses.

Dr. B. S. Patel has been appointed principal of the institute

Scholarships and Awards

one first class graduate in electrical or mechanical engineering with research or practical training experience at engineering workshop or laboratory. Applications may be sent at 25, Braburan Road, Calcutta-1.

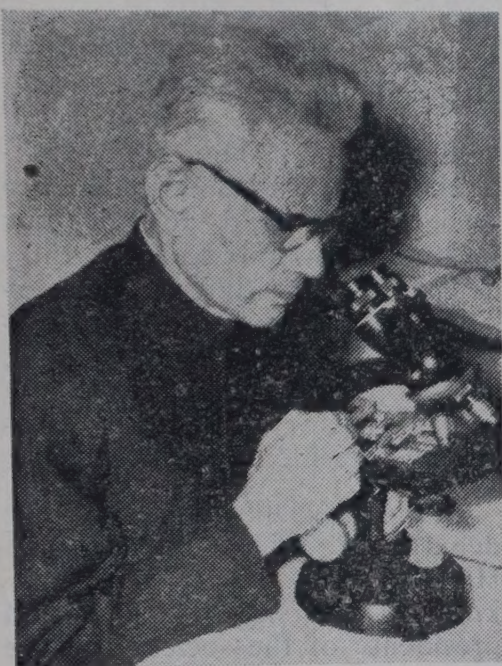
Dr. M. K. Haldar Vice-principal of Delhi College, Delhi, has been appointed chairman of Indian Studies in the College of Arts and Science, University of West Indies. He will be responsible for developing courses in Afro-Asian studies in the college.

Dr Parthasarthy Das Gupta of India was recently selected as the fellow of Trinity Hall, Cambridge.

Joshi Elected Next General President of Science Congress

Dr A. C. Joshi, Vice-Chancellor of Banaras Hindu University, was elected general president of the 1969-70 session of the Indian Science Congress to be held in Bombay. The current general president of the association is Dr. Atma Ram, Director-General of the Council of Scientific and Industrial Research.

Prof R. S. Mishra of Allahabad University and Dr. S. M.



Dr A. C. Joshi

Sircar of Calcutta University were elected treasurers of the association for three years.

It has been decided that the 56th session of the Science Congress over which Prof. A. C. Banerji, IES (retired) would preside, will be held at Bombay from January 3 to 9, 1969, under the auspices of the Indian Institute of Technology, Bombay.

The following have been elected presidents for the 13 sections of the 56th session.

Prof Brij Mohan, Varanasi (mathematics); Dr A. R. Kamat, Poona (statistics); Dr V. V. Thosa, Bombay (physics); Prof S. N. Sethna, Baroda (chemistry); Dr R. C. Misra, Lucknow (geology and geography); Prof H. K. Baruah, Gauhati (botany); Dr G. K. Manna, Kalyani (zoology and entomology); Dr Inder Paul Singh, Delhi (anthropology and

archaeology); Dr D. P. Basu, Calcutta (medical and veterinary sciences); Dr U. N. Chatterji, Jodhpur (agricultural sciences); Prof P. Brahmayya Sastry, Visakhapatnam (physiology); Dr B. De Patna (psychology and educational sciences) and Prof H. C. Guha, Jadavpur (engineering and metallurgy).

The following have been elected to the executive committee:

Executive Committee Dr: N. R. Dhar (Allahabad), Mr D. N. Wadia (New Delhi), Prof (Mrs) Asima Chatterjee (Calcutta), Dr A. C. Joshi (Varanasi), Mr V. R. Khanolkar (Bombay), Prof R. S. Krishnan (Bangalore), Dr. A. L. Mudaliar (Madras); Prof M. S. Thacker (New Delhi), Dr P. K. Bose (Calcutta) and Prof P. N. Bhaduri (Burdwan).

INTENSE ACTIVITY AT 55TH SESSION

More than 1,600 research papers on specialised studies in various branches of science were accepted and most of them read at the 55th Indian Science Congress concluded at the Banaras Hindu University campus last month.

An analysis of these scientific papers shows the qualitative and quantitative work done in each branch of science. The botany section received the largest number of papers 361, chemistry 207, agriculture 164, zoology and entomology 156, physics 108, and mathematics 97.

Other sections received lesser number of papers ranging between 30 and 50.



Prime Minister Indira Gandhi inaugurating the 55th Session of the Indian Science Congress held at Varanasi last month.

Gauhati Varsity Plan for Archaeological Survey of Garo Hills

THE department of anthropology recently carried out archaeological exploration in the Garo Hills of Assam. Professor M. C. Goswami and Dr T. C. Sharma of Gauhati University guided the exploration.

The underlying idea of the project is to explore the Arebella Range in the central part of the hill district to collect evidence of the stone age cultures.

Preliminary investigations have revealed that this area can claim to be one of the earliest inhabited place in Assam dating back to circa 5,000 B. C. when man in this region probably had no knowledge of agriculture and domestication of animal.

The exploration is expected to cover the eastern part of the Garo Hills for the purpose of surveying the valley of the Rongit river and exploring some caves and rock shelters located in that region.

The expedition has been financed and equipped by the University Grants Commission and the University of Gauhati.

Marathwada : An American literature seminar was held at Marathwada University in collaboration with the United States Educational Foundation in India. Nearly 70 participants from about 30 universities joined the discussions in the seminar where 30 papers were read.

Dr William Mulder, Director of the American Studies Research Centre, Hyderabad; Dr Leo Stoller, visiting professor at Delhi University, and Dr Allen Wendt, visiting professor at Kerala University, also delivered lectures.

The seminar was inaugurated by Dr N. R. Twade, Vice-Chancellor of Marathwada University, and was presided over by Dr W. Robert Holmes, Director of the USEFI.

Bangalore : Bangalore University of Agricultural Sciences, Hebbal, has planned to establish an agricultural engineering college, and agricultural engineering research institute and agricultural polytechnics.

According to Dr P. C. Naik, Vice-Chancellor, the setting-up of these new institutions under the university will add in the status

Campus News

of the university. However, Dr Naik has said the scheme would be implemented only when sufficient financial assistance was forthcoming from the Union Government.

Panjab: has started a department of South Indian languages. A certificate course in Tamil has also been started by the university. There is a proposal to start a diploma course in that language from the next academic year.

Tamil language is an optional subject in the higher secondary,

pre-university, pre-engineering, pre-medical, B. A. and B.Sc. courses in the university.

The department of commerce and business management recently organised a two-day seminar on "Labour Relations in the U.S.A.—Some Lessons for India". It was led by Prof Julius Getman, Ford Foundation consultant on labour laws. Mr Morris Weisz, labour counselor of the U.S. Embassy and several university professors attended the seminar.

Lucknow : The 56th Conference of Numismatic Science Society was held at Lucknow University campus recently. Fifty delegates from different universities participated in the conference. Professor K. D. Bajpai, head of the department of Ancient Indian History, Saugar University, presided over the session.

Dr R. V. Dikshit, head of the department of Ancient Indian History and Archaeology, Lucknow University, was elected president of the society for the next session. Dr P. L. Gupta,



Wrestlers of Shivaji University, Kholapur, who won the general championship at the All-India Inter-University Tournament held at Kholapur receiving the trophy from Gen. K.M. Cariappa.

curator of the Patna Museum, was re-elected secretary and Dr Vidya Prakash of the Banaras Hindu University as assistant secretary.

The 33rd annual conference of Indian Mathematical Society was held at Lucknow University recently. Dr R. S. Verma, dean of faculty of mathematics of Delhi University, presided over the conference.

More than 200 delegates from the various universities participated in the deliberations of the conference. Mr B. Gopala Reddy, Governor of U.P. inaugurated the conference.

Shivaji University : The university recently organised an All-India Inter-University Wrestling Tournament in its large open-air theatre. Nearly 175 wrestlers from 25 universities, including two from Ceylon, participated in this tournament.

Shivaji University won the championship and Panjab University secured second place while Poona University the third.

Shivaji university also recently organised a camp of principals of affiliated colleges, professor-member secretaries of the gymkhana managing committees and student-representatives of these committees. Nearly 550 persons, including representatives from the various university bodies, participated.

The camp was held under the auspices of Shivaji University Vidyarthi Kalyan Mandal. Seminars and cultural programmes were organised at the campus which was inaugurated by Dr A. G. Pawar, Vice-Chancellor.

The participants at the camp took pledge to maintain dignity of the alma mater and not to indulge in indecent activities.

Aligarh : A Southeast Asia post-graduate nematology course has been started by the university. Nematology is a relatively new branch of plant pathology dealing with microscopic small animals that cause damage to agricultural and horticultural crops.

The course has been started at Aligarh Muslim University



Dr Abdul Aleem, Head of the Arabic and Islamic Studies Department, Aligarh Muslim University, who has been appointed Vice-Chancellor of the University.

Institute and the Agricultural Centre, Wageningen.

Twenty - four participants, selected from different universities and research institute are attending the course.

J. N. K. V. V. : Jawaharlal Nehru Krishi Vishwa Vidyalaya Library, Jabalpur, has received scientific books, journals and scientific reports from Professor G. J. Birkeland of Illinois University, U.S.A.

Dr. J. A. Jackobs has joined

the university as adviser in agronomy (crop production) under the coordinated research project. Meanwhile, Dr. Harold G. Halcrow, head of agricultural economics department of Illinois University, was nominated as consultant in planning for future development and work in agricultural economics.

Visva-Bharati : The university has made compulsory the students' participation in physical education activities. All the students below 25 years have to attend four periods in a week for physical education activities. During these periods, coaching is given in swimming, football and basketball by expert coaches deputed by the state sports council and sports associations.

The students organised inter-class and inter-association competitions in the various games.

Hindi at Ceylon Varsity

The University of Ceylon at Peradeniya (Kandy) has decided to set up a department of Hindi.

Dr Ram Kumar Varma who retired as the head of the Hindi department of Allahabad University will head the department in Ceylon University.



Participant at the camp taking the pledge to maintain high dignity of the Alma mater before the Vice-Chancellor of Shivaji University.

MODERN civilization is highly dependent on transportation and communication. Brisk interchange of information together with the economical and rapid movement of goods and passengers is of utmost importance to the present day life. Radio telephone and telegraph furnish the means of instantaneous exchange of ideas. Transportation by air, rail, water or highway provides the necessary transfer of people and goods. Although the highway is not capable of supplanting the other means of transportation, it is nevertheless essential to them as well as to the lines of communication. Without the highway, it would be impossible to build, maintain or even operate the water routes, airways or railroads, nor would it be possible to make use of these means of communication. This shows the importance of developing an efficient net-work of highways in any developing country.

The advent of automobile era has brought in its trail many new problems for highway engineers. The enhanced volume of high speed and heavier traffic during and after World War II has been causing rapid deterioration of roads. This calls for improvements in the conventional techniques of highway construction and maintenance and necessitates radical changes, especially in the background of the diverse climatic, traffic and physical conditions which characterise the vast Indian sub-continent.

This necessity gradually gave rise to systematic road research in the country, which was started about a decade and half ago. Apart from the Central Road Research Institute, one of the national laboratories under the Council of Scientific and Industrial Research at the centre, there are a few other road research laboratories functioning in various states under the public works departments. Effective liaison and coordination between the Central Road Research Institute and other research laboratories is being established through the Indian Roads Congress and the consolidated results of research are discussed annually

HIGHWAY ENGINEERING RESEARCH IN INDIA

By Dr. M. L. Puri

*Head, Information and Operational Research Division,
Central Road Research Institute*

and are being disseminated for the benefit of the users.

The problems facing these laboratories are many and varied. For the overall progress of the country which is geared to stage-planning, the most essential prerequisite is good all-weather roads in all the regions, as also uniformly strong and durable national highways irrespective of the physical and climatic characteristics of the regions through which these are routed. Naturally specific techniques suiting the different regions with their respective peculiarities have to be evolved within the available resources. The rapid increase in traffic and transportation required to feed the industrial development of the country, in its turn, has created new problems.

20-Year Plan

Taking into consideration the changing economic, industrial and agricultural conditions and deficiency of the road system in India, the chief engineers of various states formulated a Twenty-Year Road Development Plan (1961-81). This plan envisaged the construction of 18,200 miles of national highways, 35,000 miles of state highways, 54,800 miles of major district roads, 1,017,00 miles of other district roads and 68,300 miles of village roads (classified). It was then estimated that Rs. 6,550 crores would be required for the construction and maintenance of this net-work of roads. In consonance with the overall increasing costs, the expenditure is bound to be much more than that estimated in 1959. Due to lean financial resources, it is very important to economise on the construction and maintenance of highways so as to construct the maximum lengths with the available finances.

Thus the various highway engineering research institutes in the country are carrying out research (i) to improve existing

techniques of constructions and maintenance and to provide suitable specifications in conformity with the requirements of the country and having regard to the locally available materials; (ii) to develop new and economical techniques; (iii) to investigate on local soils, with a view to evolving cheap type of rural road; (iv) on the relationship between bituminous binders and local aggregates, and (v) on traffic problems with a view to designing road facilities for achieving safe and efficient flow of traffic.

Highway engineering research in the country has made a sizeable contribution towards solving many vexing problems and also in developing new techniques for the construction and maintenance of roads. A brief description of some of these techniques, which are capable of affecting economy to the tune of hundreds of crores of rupees, is given below :

(i) Due to the present day increasing intensity of traffic and heavier loads, a total thickness of 25 to 30 inches of road crust is required for all major roads. However, as a result of research, it has been established that locally available soil, compacted at controlled moisture content, can be used in place of stone or brick in a substantial part of the designed thickness of a pavement, in the lowest layers, at a fraction of the cost. This simple concept has had the effect of reducing the estimated cost of road construction in the 20-year-road plan by over a couple of hundred crores of rupees.

(ii) A new method of road construction popularly known as "Mehra's Method" has been sponsored, utilising blended local soils along with cheap low grade local aggregates, which produces a road crust at a cost of only 45 to 55 per cent of the traditional water-bound maca-

dam and is usable for many thousands of miles of roads, carrying medium traffic.

(iii) Specifications have been given out as a result of research investigations, for the utilisation in road construction of low grade aggregates like laterite, kankar, moorum, etc., which have so far been considered as unsuitable for permanent construction. The increased use of such cheap local materials in road construction, in place of stone metal, will result in large savings in construction costs and transportation of materials.

Black Cotton Soil

(iv) A method of economic stabilisation of black cotton soil with a small percentage of lime, has been worked out. The use of this method will result in prevention of deterioration and consequent reduction in the high cost of maintenance of roads in areas abounding in such bad soils.

(v) As a result of long experimentation, it has been possible to recommend, through the Indian Roads Congress, that with scientific control, the period of renewals of bituminous surface dressing of almost the entire black top road mileage of the country, can be increased from three years as till lately practised in India, to as much as five years, resulting in very substantial savings in maintenance expenditure.

(vi) A new puzzolanic material "Reactive Surkhi" (calcined clay) has been sponsored and an all-India survey has been completed to locate natural deposits of suitable clays from which this material can be manufactured. The material can replace about 20 per cent of cement in cement concrete works producing a cheaper and better concrete. It can also be used in combination with lime and sand, as an alternative for cement-sand mortars in masonry construction. This is calculated to help in meeting shortage of cement in the country. Reactive Surkhi and lime-reac-

tive-surkhi mixtures are being manufactured on a pilot plant scale in the Central Road Research Institute. The process has also been recently taken up by the industry for exploitation on a commercial scale.

(vii) Work has been completed and recommendations made through the Indian Roads Congress on the techniques of providing rigid as well as flexible overlays to strengthen existing thin cement concrete pavement, which can no longer stand the existing traffic.

(viii) A method has been evolved for cheapening the cost of concrete pavement construction, by introducing a cheaper material in the form of brick in the neutral axis zone of a concrete pavement. Investigations have shown that a saving of about 15 per cent can be made in the cost of cement concrete road construction by utilising this technique, without impairing the strength requirements.

Cheap Construction

(ix) As a result of laboratory and semi-field experiments, stabilisation of fine drift sand with bituminous binders, using locally available soft kankar in powder form as filler, has been recommended for use in road construction in desert areas as a cheaper substitute for stone, which has to be imported from long distances.

(x) Methods have been developed to produce suitable road binders from low temperature tar, a by-product obtained during the low temperature carbonisation of coal, usually of inferior grade, to produce domestic smokeless fuel. The economy of low temperature carbonisation industry is closely linked with the profitable utilisation of the by-product tar. The binders obtained from low temperature tars satisfy nearly the specifications laid down by the Indian Standards Institution for high temperature road tars and their properties have been found to be satisfactory. This is likely to open

up a profitable channel for economic utilisation.

(xi) As simple remedies for general landslide correction on hill roads, the techniques of asphalt mulch and hessian netting for effective vegetation of unstable slopes, has been perfected and sponsored for large-scale use.

(xii) The technique of providing horizontal drains into hill sides, to prevent large-scale land movement, as a result of saturation of the slopes from deep-seated subterranean sources of water, by draining out such water, has been perfected and sponsored.

For achieving the various objectives, the road research organisations in the country have built up teams of experts not only in highway engineering, but also in many other technical sciences, such as physics, chemistry, geology, soil mechanics, petrography, and microscopy, as without the use of these sciences, it is well nigh impossible to find answers to the problems of economic planning and strong and durable construction.

TEACHING OF FILM APPRECIATION

Dr. H. V. Pataskar, Vice-Chancellor of Poona University, has suggested that film appreciation should be included in the curricula of the universities at the graduate level.

Speaking at the Film Institute of India at Poona recently, Dr. Pataskar said that Poona University should take the lead in this respect as the Film Institute was located there.

Dr. Pataskar opined since the films have attained a responsible duty of educating the masses and spreading knowledge, the introduction of film appreciation at the university will help a lot the makers of films.

Dr. Pataskar felt that the young film producers and directors would benefit immensely from the constructive criticism.

NEW TIMING SYSTEM IN UK FROM OCT

BRITAIN will turn permanently to a time system one hour in advance of Greenwich Mean Time (GMT) from October this year.

The system, to be known as British Standard Time, will bring British time into conformity with Central European Time. Provisions for its introduction have been embodied in the legislative proposals before the House of Commons.

In practice, British time will be permanently one hour ahead of GMT from February 18. On that day, the last seasonal change will be made under the present system—from Greenwich Mean Time, used in the winter months, to Summer Time (one hour forward) used in the rest of the year.

The seasonal Summer Time will continue till autumn, and will become the new British Standard Time from October 27.

The legislation now before Parliament affects the use of Greenwich Mean Time for purposes of astronomy, meteorology, navigation besides for subjects for which such time is adopted for international use.

MASS EDUCATION BY SATELLITE

An Indian graduate is among 37 students who have developed a television transmission system for mass education through space satellites.

The system has been developed at the Engineering School at Stanford University, California, and Dileep R. Tambe of Nagpur is one of several students from foreign countries who have aided its development.

Taking into consideration the political structure, economy and other factors in a developing country, the cost of instruction per student is estimated from Rs. 5.25 to Rs. 6.69 a year.

LEARNING FAST WITH EASE TOO

By Dr. Brynmor Jones

Vice-Chancellor of Hull University and Chairman of Britain's National Council of Educational Technology

THERE is a widespread feeling that the technological revolution of our time and the closely related developments in communication present educationists with unique opportunities to improve both the quality of teaching and the ease of learning.

Realising the potential of modern media and aids, such as television, film and programmed instruction, Britain's University Grants Committee, the Department of Education and Science and the Scottish Education Department set up a special committee in the spring of 1963 "to survey the current use of audio-visual aids in teaching and research in the pure and applied sciences in institutions of higher education in Britain and, taking into account their use in similar fields in comparable institutions in selected countries overseas, to assess their potential usefulness and possible lines of development in Britain".

After considering and sifting all the evidence, the committee expressed its reaction to the value and importance of current audio-visual media and aids: "It is difficult not to believe that the

communication of ideas can be greatly helped by the use of audio-visual appeal, with the lecturer selecting the aid most helpful to him and his students, promises to be more successful than simple oral communication—We have become increasingly convinced that these aids can help to improve the quality of teaching, and to ease and enrich learning processes."

Although the committee's terms of reference referred specifically to the pure and applied sciences in institutions of higher education, the report itself deals with the importance of modern media in the medical sciences and emphasises that many of its recommendations are applicable to teaching in the humanities and to learning processes in colleges, schools and in the Services.

The report evaluates the importance of language laboratories, and there is an appendix on the design of the kind of accommodation required for the best and most efficient use of audio-visual media and aids.

Without attempting to trace fully the evolution of every modern aid, the report contains many



The first television outside broadcast van to be designed for an educational establishment was recently delivered to Glasgow University. It is a four-camera unit with all the facilities normally found in a studio control room.

recommendations on the use of individual aids and on the kind of educational planning which is required if their potential is to be fully developed. It stresses that at local or institutional level, there is a widespread need to provide a co-ordinated communication service in most academic institutions. And at national level, a centre which would provide a focal point for the work of existing organisations whose limited and often overlapping activities are unco-ordinated and sometimes unknown.

Such a centre would concentrate on those services which cannot be rendered satisfactorily by smaller units.

The British Secretary of State for Education and Science, following the publication of the report, set up a National Council for Educational Technology. About a year ago, the then Minister for Education and Science

had spoken of the "dawning revolution in the technology of education" and of the good effect this would have on the status of the teacher. Not all teachers, of course, are of this mind.

While many are enthusiastic, some are apathetic and a number are torn by doubts about the value and significance of modern media and aids.

Doubts Answered

The Plowden Committee which inquired into primary education rebuts in its report some of these doubts.

"Some primary school teachers think that such aids to learning as broadcasting, television, cine film, filmstrip and discs are the negation of modern primary methods", the report notes adding that "this is a mistaken view.... They enrich enormously the resources available to teachers and

children. Programmed learning could relieve the teachers of some routine tasks and free them to exercise their influence more constructively."

Summing up, the report says: "This is an age of increasing mechanisation. Inevitably, more and cheaper mechanical aids will find their way into primary schools. Teachers must, therefore, consider how they can use them best to enrich the ways in which children can learn."

At every level of education, new possibilities are being opened up by advances in the field of audio-visual media. It is no longer a question of using audio or visual aids as a way to help teachers to improve their traditional and established methods of teaching. New possibilities in both teaching and learning are now available to all who have the knowledge and the energy to develop them.



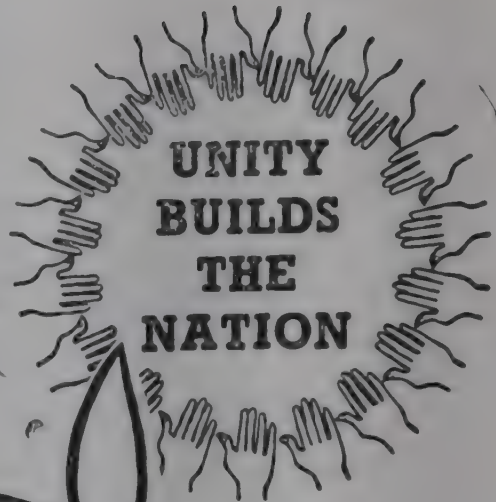
A class watching teaching film at a British school. The projection is being handled by pupil.

the day to celebrate **TOGETHER**

We celebrate the eighteenth year of our Republic to-day. We reaffirm our pride and our faith in our great country. As we usher in the new year of our Republic, let us remember that in Unity lies our strength and it is only through Unity that we can achieve our cherished goal of peace and prosperity.

All together, let us rededicate ourselves to the task ahead, to be

One Great Country, One Great People



Readers' Forum

I am a graduate in electrical engineering. I want to sit for the master's degree examination either in mathematics or in physics as a private candidate. Please let me know which of the universities in India can permit me for this as a purely external candidate, i.e., without attending the regular classes.

Kindly also inform me which of the universities in India allow engineering graduates, without having master's degree, to do Ph.D. ?

—Sridhar Sahoo, Rourkela-8

Universities in India do not allow candidates to appear in their examinations as purely private candidates.

Nor are we aware of any university which allows candidates to take Ph.D. without obtaining the master's degree.

I have passed the English school leaving certificate examination conducted by the Government of the former Travancore state in 1948. I intend appearing in the pre-university examination of any university of India as a private candidate. Kindly let me know the name of a university which can provide such facility.

—P.G. V. Vaghese, Jammu Tawi

Permission to appear as private candidate in the P.U.C. examination is restricted to certain categories of candidates like teachers, demonstrators, women, etc. who are residing within the territorial jurisdiction of the respective university. Hence you may get in touch with the Jammu and Kashmir University for this purpose.

With regard to the eligibility of candidates who have passed the E.S.L.C. examination for appearing in the P.U.C. examina-

tion, you may write direct to the university for obtaining the necessary information.

Would you kindly let me know the names of the Indian universities conducting external examinations at post-graduate level ?

—S. P. Gupta, Delhi

Several universities in India conduct examinations on the external side i.e. provide facilities for candidates to take the examination as private candidates. Such a facility is, however, restricted to (a) those residing within the territorial jurisdiction of the university, and (b) to certain categories of students like teachers, librarians, women, etc.

Would you please let me know the names of the universities in India which are conducting M.A. examinations (economics, political science or Hindi) through correspondence courses ?

—B. D. Ubaveja, Ludhiana

No university in India has started correspondence courses leading to the master's degree.

I am interested in taking up the course in aeronautical engineering at the bachelor's level. May I request you kindly to let me know the names of universities and institutes which conduct the bachelor's course in aeronautical engineering ?

—Kalu Ram, Delhi

Courses in aeronautical engineering leading to the bachelor's degree are being conducted by the Indian Institute of Technology at Kanpur, Kharagpur, and Madras, and in Panjab University.

There is also the Madras Institute of Technology where facilities for the study of aeronau-

Agricultural University for Assam

THE Assam Government has appointed a seven-member committee to prepare a project for an agricultural university in Assam.

The committee will submit estimate for the establishment of university; recommend measures necessary for instituting various subjects; suggest location of headquarters of the university and make other relevant suggestions in this regard.

The state commissioner for agricultural production will be the chairman of the committee and the special officer of the agricultural university, the secretary.

Other members of the committee are: secretary of the state agriculture and veterinary department; secretary of the state finance department; state director of agriculture; state director of veterinary and a nominee of the Indian Council of Agricultural Research.

Award on Gandhi Life

The Bihar Government has offered an award of Rs. 10,000 for an epic in Hindi, on the lines of the Ramayana, on the life and works of Mahatma Gandhi.

This was announced by the State Governor, Dr. Ayyangar, at a devotional music concert organised by the Patna Station of AIR recently.

tical engineering at the diploma level are available. The minimum qualification for admission to this course is graduation.

Courses in Library Science

Nagpur University conducts a bachelor of library science course and also a junior diploma course in library science. In our reply to Mr Roshan Lal, Dehra Dun, on the subject given in this column in the December issue, Nagpur University was not mentioned in the list of names of universities providing facilities for the study of a course leading to a bachelor's degree in library science. The correction may please be noted.

RECENT researches conducted by the Mathematics and Statistics Department of Poona University have broken completely new grounds in Probability and Theory of Estimation. Besides, important research of Statistical Inference, Invariance Theory and Analysis has also been undertaken by the department.

Dr. V.S. Huzurbazar, Head, is responsible for the expansion of the department, is an eminent teacher and a zealous researcher. He has done pioneering work in Theory of Probability, Invariance, Theory and Analysis and Statistical Inference.

Another wing of his department is engaged in some work on the Petrov classification of gravitational fields under the able guidance of Professor V. V. Narlikar. During the past 12 years, a new interest in the theories of gravitation has developed because of many new discoveries of cosmological significance. A new type of gravitational field was first presented by Karmarkar and Narlikar in 1946 and it has attracted fresh attention in recent years.

Various new aspects of the field have been investigated in the light of recent work by Moller, Synge and others. Mach's principle demands that the law of gravitation be dictated like other fundamental laws of physics by the structure of the universe. This has been made by one of Prof. Narlikar's students the starting point of new laws of motion of particles. An attempt has been made by another student to show that the equation of gravitation as given by Brans, Dicke, Fred Hoyle and J. V. Narlikar, from two entirely different standpoints are similar to the equations obtained in general relativity by the use of conformal transformation. Several papers incorporating most of these and other results by the research students of Professors Narlikar have been published recently. Thus at Poona a new school of work in relativity is coming into existence. The new work at this school is based on the old work in general relativity, unified field theories and cosmology carried out before by Professor Narlikar and his associates

Distinguished Scientist

New Researches in Theory of Probability

and reported in standard works of Halvaty, Synge, Tonnelat and North ("The Measure of the Universe").

The department of mathematics and statistics of Poona University which was established in 1950, conducts M. A., M.Sc.



Dr. V.S. Huzurbazar

courses in pure mathematics, applied mathematics and statistics. Dr. Huzurbazar has collected a band of competent research workers who are responsible for the new results that are being arrived at.

Dr. Huzurbazar himself has a brilliant academic record. He possesses a doctorate in mathematics from Cambridge University and is a fellow of the Cambridge Philosophical Society, Cambridge; the Royal Statistical Society, London; the National Institute of Sciences of India, and the Indian Academy of Sciences.

He was the third Indian to receive the coveted Adams Prize of the Cambridge University in 1960 for his brilliant research on Probability Theory. This prize was awarded on the publication of his essay on the Invariance Theory of prior probabilities. Dr. Huzurbazar was invited as Fulbright Visiting Professor of Statistics for two years (1962-1964) by Iowa

State University, U.S.A. He has also taught at Gauhati and Lucknow universities.

Invariants have been assuming increasing importance in the theories of probability and statistics. Sir Harold Jeffreys of Cambridge and Prof. P. C. Mahalanobis, eminent Indian statistician, discovered a few invariants some years ago. These have found applications in stating the prior probability of parameters in estimation problems, testing of hypotheses, and problems of discrimination between two populations. There was, however, a need for more invariants. Dr. Huzurbazar discovered a new class of invariants of probability distributions, and it has interesting mathematical properties. The new invariants are useful in stating the prior probability of parameters in estimation problems.

Some of the research work of Dr. Huzurbazar on the invariance theory will be incorporated in the revised third edition of the book "Theory of Probability" by Sir Harold Jeffreys, which is expected to be published soon by the Oxford University Press.

In addition to theoretical research, his department has taken keen interest in the applicational aspects of statistics. A socio-economic survey of the college students on Poona was conducted by the students and staff under Dr. Huzurbazar's supervision. In view of the increasing use of statistical techniques in physical, biological and social sciences, the department has organised a statistical service unit to render statistical assistance to those who need.

With Dr. Huzurbazar's research, mathematics and statistics is bound to be greatly enriched. An unassuming, quiet and soft-spoken as he is, Dr. Huzurbazar himself is a luxuriant source of unflinching inspiration for all those who look to him for guidance and encouragement.

Treatise on University Education in India

University Education in India by S. R. Dongerkery, Manaktalas, Bombay, pp. 360, Rs. 36.00

I DON'T think there is anybody in India today who is more knowledgeable about the diverse aspects of our higher education than Mr. S. R. Dongerkery, the distinguished author of the book under review. Mr. Dongerkery's credentials are unique. He has had training in law, he has written poetry, and he has won laurels in university administration. Registrar of the University of Bombay for quarter of a century, the first Rector of Bombay, and the founder vice-chancellor of Marathawada, in all over 35 years in university administration : no mean record this, but when we add to the score his fruitful contacts with the International Universities Association and the Commonwealth Universities Association, as also his authorship of no less than seven other books on universities and university education, Mr. Dongerkery's credentials to write the present treatise will be seen to be altogether exceptional. Although endowed with a genial temperament, he has always known the importance of being earnest, for without earnestness, industry, and continuous absorption such an almost encyclopaedic work as *University Education in India* could neither have been planned nor brought to the point of triumphant execution.

In these 350 packed pages, Mr. Dongerkery has achieved the double feat of comprehension and critical analysis. The first five chapters give a quick review of education in India since the days of Taxila and Nalanda, and lay due stress on the contribution of the Christian missionaries, the issue between Western and Oriental learning, the role of Macaulay and Bentinck, and Wood's Despatch and the founding of the first universities in 1857. One point that Mr. Dongerkery makes is that, already when Macaulay landed in India in 1824, English education had taken roots in Calcutta, Bombay and Madras. All that Macaulay did was "to determine decisively the inclination of State influence to the side of English education."

The Challenges

A chapter on 'Landmarks in University Education' briskly surveys the growth of the universities from three in 1857 to seventy today, apart from "deemed" universities. From time to time commissions have been appointed, and their reports have set the pace of change and growth. The Inter-University Board came into existence in 1925, and the U.G.C. in 1956, and these are the principal guardians of the conscience of the universities, and of their physical and intellectual health. Having come up at different times, and in response to different challenges, it is not surprising that the 70 universities are not all of a piece. They vary in size, in their patterns, and in their administrative set-up. And there are also special features in some of the universities—a strong agricultural or technological bias in some, "advanced"

centres in some others, a tradition of research of high quality in quite a few.

The creation of certain "centres of advanced study" in select universities to "encourage the pursuit of excellence" doesn't seem to me a healthy development. To confer "advanced" status on one or two departments in a University out of a total of thirty

BOOK REVIEW by K. R. Srinivasa Iyengar
Vice-Chancellor, Andhra University

or more is to reduce most of these to inferior status. Likewise, universities which haven't won the kudos of "advanced" classification are indirectly condemned to B or C grade. I should think that university education is by implication "advanced" enough, and it would be for the world of learning to judge the quality of the work done in individual departments. But in India we are often content to be carried away by semantic exercises like "aspirant" centres, "advanced" centres, and "clusters" of such advanced centres!

The chapter on 'Student Life in the Universities' is an objective appraisal of current conditions; and talking of 'student indiscipline', Mr. Dongerkery makes the point that "in quite a number of cases, the effective cause of an act of indiscipline is extraneous to student life". Two chapters, 'The Role of the Teacher' and 'Teaching and Research', touch the heart of the matter. The teacher who makes teaching his *alibi* for not engaging in research and the researcher who is apparently so much engrossed in research that it becomes his excuse for not teaching are both in their element in administration, committee work, and examination boards. The best university teachers usually manage to teach as well as engage in research, and do both equally well. The teacher needs to be paid a reasonable salary and assured satisfactory service conditions, and he should be allowed to call his soul his own. On the other hand, the university teacher too must come to the tasks of teaching and research with a sense of dedication. In our colleges and universities, there is over-lecturing as if there is an absence of printed books, and other methods of instruction involving active participation by the students are very little in evidence. In the *Chandogya*, three learned men meet and say, "Come, let us have a discussion on the *Utgitha* !" In our Groves of Academe, this sort of thing happens but very seldom. But it is not uncommon in our universities for even post-graduate students to be lectured at for 25 or more hours per week—even in science subjects ! The syllabus is so 'heavy', and it must be fully 'covered' ! Where is the time and who has the inclination for tutorials, discussions, and seminars ?

As for research, Mr. Dongerkery rightly condemns much that passes for research. Many schemes are being sponsored by the RPC of the Planning Commission and other bodies, and bulky reports are pro-

duced in the end. These, however, hardly ever rise to the level of research and will ordinarily come under Mr. Flexner's general castigation :

"Unanalysed and unanalysable data, no matter how skilfully put together, do not constitute research; reports are not research; surveys are not research."

And when some of these reports (even when they are called 'theses') are published, they strike Mr. Dongerkery as "a waste of paper, printing, time, energy and money". Genuine research is an effort to reach the truth, and "the subject must be serious, or have serious implication... the observer must preserve an objective attitude" (Flexner). And the pursuit of 'quality' is nowhere more important than in the field of research and scholarly publication.

Mr. Dongerkery devotes individual chapters to 'Libraries', 'Women in the Universities', 'The Three-Year Degree Course', 'General Education', 'Professional Education', and 'University Extension'. These are largely descriptive and informative. 'General Education' was originally put forward as a remedy for a peculiarly American malady—the indiscriminate elective system. But like hypochondriac patients who try every medicine, allopathic, homoeopathic, Ayurvedic and Unani, post-independence India too has been recklessly swallowing every kind of pill, whether it is of American, British, Russian or Japanese origin. In science, engineering and technological education, there has doubtless been tremendous expansion, but we still seem to be teaching, not current science, but the history or even archaeology of science and technology. The wind of change has no doubt begun to blow, but as yet not fast enough, or in a sustained manner, and the effects are felt only fitfully and in isolated places. And already there is large-scale unemployment among engineering graduates, and the 'pool' of highly trained unemployed scientists makes one wonder what has gone wrong with our man-power planning in the spheres of science and technology.

Education Media

The chapter on 'The Medium of Instruction and English' is an excellent exercise in tight-rope dancing. The language problem has now become a packet of dynamite, and you can neither touch it with impunity nor leave it alone. The regional languages should be progressively used as media of higher education. There is 'consensus' on this point. A 'link' language too is necessary, and a 'library' language for higher studies and research is a desideratum. While all agree to both these propositions, in the extreme South the feeling is that English should be the link as well as library language, but in the North the claims of Hindi for this double role are being aggressively canvassed. The so-called three-language formula, which Mr. Dongerkery seems to like, appears to me a mere piece of self-deception. The Tamils say that Hindi too is no more than a regional language, rather poorer and less developed than Tamil, Bengali, Marathi, Telugu or Gujarati. The Hindi people say that it is the legal heir to English in India. How are these views to be reconciled? Meanwhile, the only link languages in the country seem to be 'tar' and the

'torch'—one blackens all letters, the other burns out all 'reading materials'. We can only wring our hands and exclaim :

Time, thou must untangle this, not I,
'Tis too hard a knot for me to untie.

An equally explosive topic is 'University Autonomy', to which also Mr. Dongerkery devotes a whole chapter. Homeric battles have been fought on this question—and not in one university arena alone. Gokhale, Sir Ashutosh Mukherjee, and Sir Chimanlal Setalvad were among those who boldly resisted encroachments into university autonomy, but since independence universities are finding themselves even more exposed to pressures of all kinds. When universities were no more than examining corporations, it was easy enough for them to try to stand on their own. Today, most universities have assumed teaching functions and the responsibility for research, and these require finance on a liberal scale. The UGC, with its offers of help on a sharing basis for a limited period, encourages universities to undertake schemes of expansion which cannot be continued unless the State Government underwrites all committed expenditure. Even in the United Kingdom, the Government is trying to impose stricter financial control over the U.G.C. and the universities.

General Guidance

The U.G.C. has decided to issue a memorandum of "general guidance" to the universities. And it was the Government, not the universities, which decided to raise the fees of the overseas students. Already in India, university autonomy has suffered erosion from without and perversion from within. And so long as universities have pathetically to depend on Governments for finance, autonomy can only be a makeshift proposition. Universities too should be ready to set their own houses in order and try to make the best possible use of the scarce physical and human resources that are now available. Autonomy is not the divine right of the universities; it is merely the condition for the healthy functioning of universities. And this should not preclude an honourable and meaningful dialogue between the Government and the university community. Such a dialogue is all the more necessary today because modern universities have not only to conserve knowledge but act also as instruments of change.

The two last chapters are entitled 'Recent Trends in University Education' and 'Report of the Education Commission'. Some of the new developments in the universities, and some of the latest thinking, are summarised in these chapters. With the best will in the world I am, however, unable to applaud the move to class some universities as 'major'. I hope this idea will not be persisted in. Oxford is only Oxford yet, and doesn't seem to feel the need to call itself a 'major' university.

'Encyclopaedic' I called Mr. Dongerkery's book, and so indeed it is ; but it is also a *book*—urbane, authoritative, full of digested information, well-proportioned, and written with the ease and assurance that are the crown of a life-time spent in the tasks of university education.

NEWS IN BRIEF

Bangalore Industrial Estate Library

The Mysore Government has allocated Rs. 50,000 for the establishment of a technical library-cum-reading room in the Industrial Estate, Bangalore.

The library will be equipped with reference books on latest technological methods and processes as well as books explaining the possibilities of new types of small-scale industries.

Central Aid for Telugu Sought

A list of old boys of the University along with up-to date information about them was also proposed to be compiled on this occasion.

New Course for the Blind in Gujarat

The Gujarat Council of Technical Education has recommended institution of a new diploma and certificate courses in man-made fibres and special certificate course for the blind in various crafts.

Asian Statistics Centre

An Asian Statistics Training Centre under the aegis of ECAFE will be established in Tokyo by September 1968.

Non-receipt of University News

University News is posted on the 7th of every month. In case a subscriber does not receive it by the 20th of the month, he should inform this office immediately and duplicate copy will be supplied. Requests received for a replacement copy after the new issue has appeared cannot be entertained.

Classified Advertisements

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

Notification No. 23

Applications are invited for the following posts.

Faculty of Technology and Engineering

1. Professor of Metallurgical Engineering Grade : Rs. 1000-50-1500.

Qualifications:

A first or second class Master's degree in Metallurgical Engineering of recognised Indian University or an equivalent qualification of a foreign University with specialisation in the subjects related to one or more of the groups :

(a) Production Metallurgy, (b) Extraction Metallurgy, (c) Physical Metallurgy, (d) Analytical Metallurgy

with seven years' experience or a research degree of doctorate standard with five years' experience of teaching post graduate classes and conducting research. Corporate membership of professional institutions and publication of research work in recognised technical journals of India and abroad desirable. The candidate should be a scholar of eminence. Professional training and/or experience in the Metallurgical field in heavy steel work like Tisco or any of the National Steel works will be an additional qualification. The above qualifications may be relaxed in the case of candidates of outstanding merit.

2. Reader in Metallurgical Engineering:

Grade : Rs. 600-40-1000—50/2-1150.

Qualifications:

A first or second class Master's degree in Metallurgical Engineering of recognised Indian University or an equivalent qualification of a foreign University with specialisation in the subjects related to one or more of the groups (a) Production Metallurgy, (b) Extraction Metallurgy, (c) Physical Metallurgy, and (d) Analytical Metallurgy, with five years' experience or a research degree of doctorate standard with three years' experience of teaching post-graduate classes and conducting research. Corporate membership of professional institutions and publication of research work in recognised technical journals of India and abroad desirable. He should be a scholar of eminence. Professional training and/or experience in the Metallurgical field in heavy steel works like Tisco or any one of the National Steel works will be an additional qualification. The above qualifications may be relaxed in the case of candidates of outstanding merit.

Smt. Hansa Mehta Library

3. University Librarian :

Grade : Rs. 1000-50-1500.

Qualifications :

(i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University, (ii) A first or second class Post-graduate Degree or Diploma in Library Science; (iii) A person of eminence in the subject with either a research degree or a Doctorate standard or published work of a high quality. (iv) About ten years' experience in Library Work in a University or College in a position of responsibility including experience of teaching in the field of Library Science.

Desirable : (i) Proficiency in documentation and bibliographical work and various types of classifications. (ii) Working knowledge of one or more Foreign languages. If a candidate is not found fully suitable for the post of University Librarian, he may be considered for appointment as Deputy Librarian in the grade of Rs. 700-40-1100.

4. Assistant Librarian :

Grade : Rs. 400-30-640-800.

Qualifications :

A first or second class Master's degree together with at least a second class degree or Diploma in Library Science; or (ii) A first or second class degree in Library Science with at least three years experience in a University or College Library, or in a Library of corresponding standard.

Desirable : (a) Knowledge of the latest techniques in Library Science, and classifications (b) Experience of teaching in the field of Library Science.

Notes :—Candidates who have already applied for these posts in response to Notification No 16 dt. 9-9-1967 need not apply again as their applications will be considered along with the applications received in response of this advertisement.

Faculty of Education and Psychology

5. Reader in Education for the Rural Centre of Educational Research and Training (Secondary Education) :

Grade : Rs. 700-40-1100.

Qualifications :

A first or second class graduate with a doctorate degree in Sociology or Education, or at least a second class Master's degree in Education in addition to at least a second class Master's degree in Education in addition to at least a second class master's degree in Sociology or Social Work.

Desirable : At least five years' experience of planning and conducting rural studies and surveys and in training post-graduate students for rural leadership and as agents of social change.

The post is temporary till 31st March, 1971 for the present.

General Instructions

D. A. and P. F. benefit admissible as per University Rules. Candidates already in employment should apply through their present employers and send an advance copy on plain paper together with other five copies in the prescribed form. Candidates if called for interview will have to come at their own expense. Incomplete applications, those on plain papers and those received late will not be considered. Applications in the prescribed forms available from the Registrar's Office, on receipt of a Crossed Postal-Order of Rs. 5/- should reach the Registrar, M. S. University of Baroda, Baroda-2 on or before the 12th February, 1968.

B. K. ZUTSHI
University Registrar

UNIVERSITY OF GORAKHPUR

Advertisement No. 39

Applications in the prescribed form (8 copies) available from the office of the Registrar on payment of Rs. 5/- as a registration fee payable in cash or by Money Order or Postal Order drawn in favour of the Registrar, Gorakhpur University, Gorakhpur, for the following post is invited so as to reach this office through employer, if employed, not later than February 10, 1968.

Persons who have applied in response to the previous advertisement for this post need not apply afresh. But they should intimate to the undersigned that they would like to be considered for it in terms of the new advertisement.

Provident Fund benefits according to University rules are available.

Deputy Registrar :

One (Permanent) in the scale of Rs. 600-800 likely to be revised to a higher scale in the near future.

Qualifications :

- (i) Essential—A Graduate from any University having good academic career.
- (ii) Experience for at least 10 years of administrative and office work in any Government Office

or in a Degree College of good standing or a University.

(iii) Good knowledge of Hindi.

BHOLENDRA SINGH
Registrar

Advertisement

SHIVAJI UNIVERSITY KOLHAPUR (Maharashtra State)

Applications are invited for the following posts in the Post-Graduate Departments of the University :—

1. Geography :

One Reader.

Two Lecturers.

2. Chemistry :

One Reader (Inorganic/Physical).

3. Mathematics :

One Reader (Pure Mathematics).
One Lecturer (Functional Analysis
Abstract Algebra/Measure Theory/
Complex Analysis).

Scale:

Reader : 700-40-1100.

Lecturer : 400-30-640-EB-40-800.

Details of qualifications etc., along with prescribed form of application can be had from the university office.

Applications should reach the Registrar, Shivaji University, Vidyannagar, Kolhapur-4, by 25th February, 1968.

U. ITHAPE
Registrar

THE UNIVERSITY OF JAMMU & KASHMIR

Jammu Division, Jammu.

Application are invited for the following posts to reach the undersigned on or before 1st March, 1968:—

1. Professors: One each in History and Hindi (1100-1600).

2. Reader: One each in Mathematics and Chemistry (Organic/Inorganic) 700-50-1250 plus allowances admissible.

For full details and prescribed application forms please apply by sending a crossed postal Order for Rs Six (Cashable at Jammu Post-Office) in favour of Joint Registrar, Jammu & Kashmir University, Jammu (Tawi).

M. A. CHISHTI
Joint Registrar

ALIGARH MUSLIM UNIVERSITY Aligarh.

Advertisement No: 16/67-68

Applications are invited on the prescribed form for the following posts:

Jawaharlal Nehru Medical College

Candidates must possess a Medical qualification included in first or second schedule or Part II of the third schedule (other than Licentiate qualifications) of the Indian Medical Council Act, 1956. Holders of educational qualifications included in Part II of the Third Schedule should fulfil the condition stipulated in Section 13(3) of the I.M.C. Act, 1956. Must possess a basic University or equivalent qualifications entered in schedules under State/Central Medical Registration Act.

Scale of Pay:

1. Readers— Rs. 700-50-1250 & plus N.P.A. D.A.
2. Lecturers— Rs. 400-40-800-50-950 plus N.P.A. & D.A.
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Qualifications:

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Experience:

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Desirable:

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Qualifications:

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Desirable:

Teaching experience and experience at the Bar.

Prescribed applications forms and instructions may be had from Registrar by sending self-addressed envelope 9" "X 4". LAST DATE OF RECEIPT OF APPLICATION 20.2.1968. INCOMPLETE APPLICATIONS AND THOSE RECEIVED LATE SHALL NOT BE CONSIDERED EXCEPT BY SPECIAL PERMISSION.

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Situations Abroad

OXFORD University and Corpus Christ or St Anne's College invite applications for research fellowships in the history of the medical sciences up to February 15, 1968.

DURHAM University invites applications or lectureship in Education up to February 16, 1968.

MANCHESTER University invites applications for a post of assistant lecturer in the department of town and country planning up to February 17, 1968.

MANCHESTER University invites applications for Turner and Newall in Research Fellowships in engineering, inorganic chemistry, physics and allied subjects. Last date for receiving the applications is February 23, 1968.

HULL University invites applications for Imperial Chemical Industries postdoctoral Research fellowships in chemistry; biochemistry, including plant biochemistry; electronic engineering; geology; physics; applied physics or applied mathematics in relation to chemistry up to February 16, 1968.

NEWCASTLE Upon-Tyne University invites applications for the post of established readership in physiology.

Last date for receiving the applications is February 19, 1968.

NEW ZEALAND Council for Educational Research, Wellington, invites applications for the post of director up to March 15, 1968.

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SOUTHAMPTON University invites applications up to February 16, 1968 in the mathematics Department for lectureship or assistant lectureship.

MALAYA University invites application for the post of senior lecturer in the education faculty up to March 1, 1968.

For further information, please write to the Universities/institutions concerned or the British Information Services, Chanakyapuri, New Delhi 21.

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